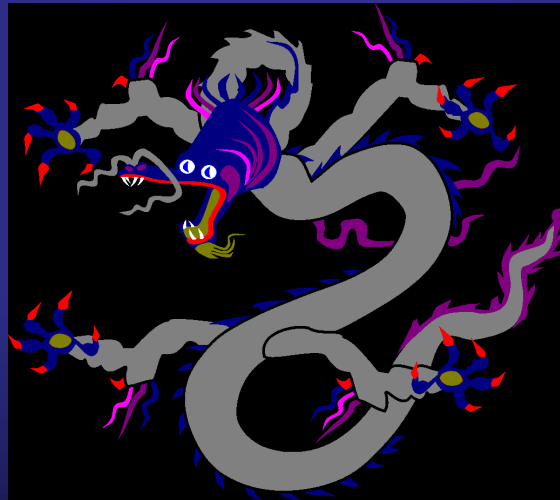


LTEM Database

(AKA the good, the bad, the ugly....

and the monstrous)



H. Sharon Kim
Denali NPP
**RM Specialist/
Data Manager**

- ❖ **Vision**
- ❖ **Process of Creating & Current Status**
- ❖ **Issues to be Resolved**

the vision

LTEM DATABASE VISION:

- **Unified structure--a single database with many relationships and linkages (based on CHIS).**
- **Easy-to-use front end with QA/QC components automatically running.**
- **Built-in queries that are used frequently by each project.**
- **Linked to GIS coverages for spatial data to keep maps up to date.**

Why have a single big database?

Obvious (proximate) reason:

1997 Data Management Protocol

Really why:

- * No loss of data when people move on.**
- * Common location.**
- * Storage of electronic data insured.**

the different projects involved currently:

Air Quality

Small mammal populations

Vegetation

Raptors

Aquatic Invertebrates

Snow Courses

Avian Point Counts

Stream Channels

Breeding Bird Surveys

Weather

Glaciers

Monitoring Avian Productivity and
Survivorship (MAPS)

Wolf, Caribou, Grizzly Bear, & Moose
Populations

the process of creating the database

step A

FOR ALL PROJECTS INDEPENDENTLY:

- **Understand researcher's original database.**
- **Get table fields from researcher.**
- **Normalize original tables.**
- **Consult with researcher about the normalized database.**

What is Normalization?

- ✧ **Breakdown of tables into smaller units.**
- ✧ **All fields in a table must relate to a single subject.**

Why do it?

- ✧ **Reduction of redundancy & duplication.**
- ✧ **Easier to fix mistakes or update fields.**

current status

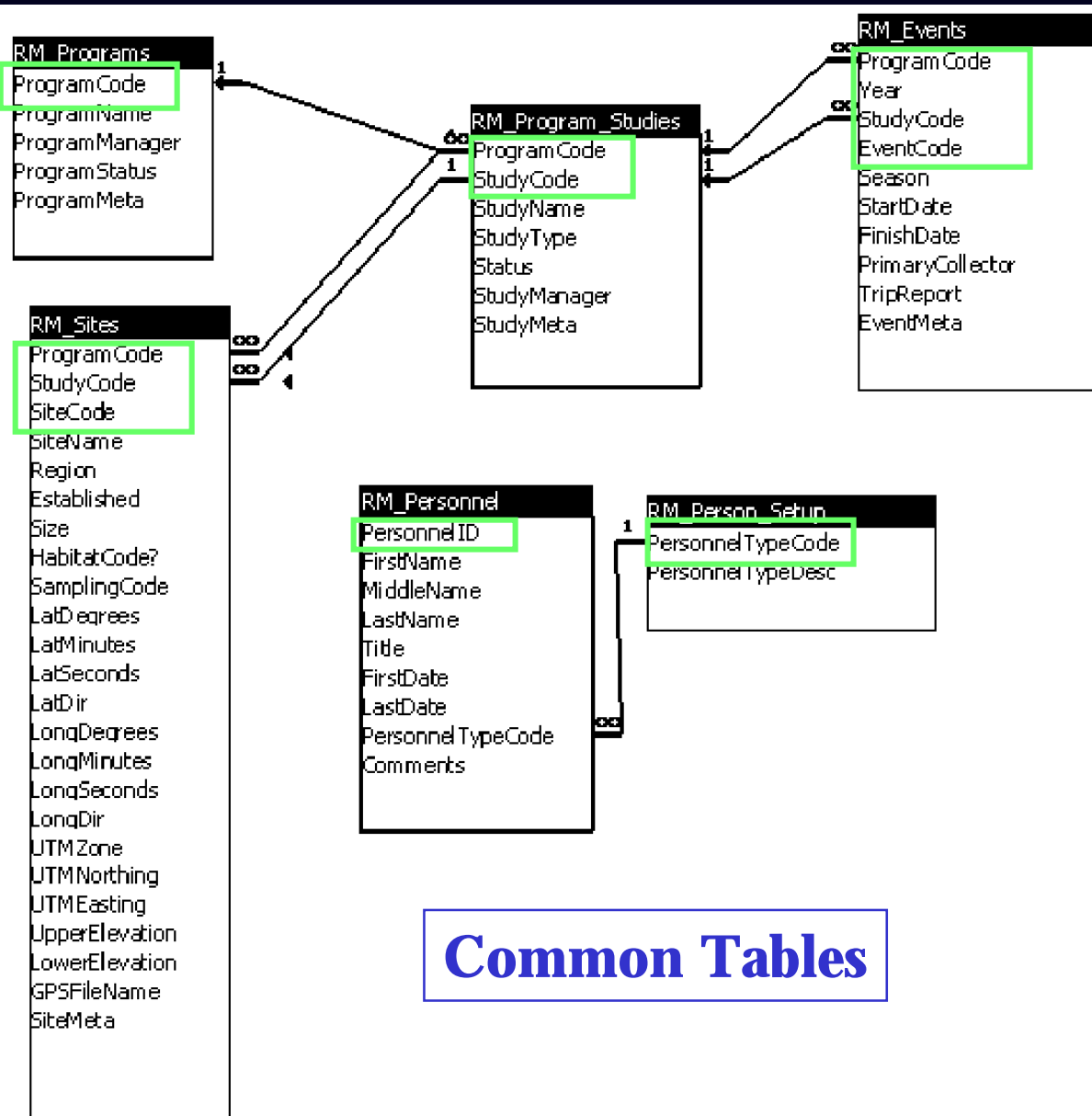
	GET DATA FIELDS	NORMALIZE	CONSULT RESEARCHER	
GLACIERS	✓	✓	✓	
RAPTORS	✓	✓		
VEGETATION (PRE-1999)	✓	✓		
VEGETATION (POST-1999)	✓	-		
AIR	✓	-		
WEATHER	✓	✓	✓	
SNOW SURVEYS	✓	✓	✓	
STREAM	✓	✓		
SMALL MAMMALS	✓	✓		
POINT COUNTS	✓			
MISTNETS				
INVERTEBRATES	✓			
WOLVES				
CARIBOU				
BREEDING BIRD SURVEYS	✓			
MOOSE				
GRIZZLY				

step B

CONSOLIDATING ALL PROJECTS INTO ONE DATABASE

- ◀ **Determine tables serving as common links to other tables.**
- ◀ **Merge normalized tables from each project with common tabl**

current status



Common Tables

step C and beyond

AFTER CONSOLIDATION:

- ↻ **Delineate each field for each table for each project.**
- ↻ **Determine best forms for input, if relevant.**
- ↻ **Set up commonly-used queries for each project.**
- ↻ **Format automated reports from queries for each project.**
- ↻ **Link spatial data to GIS.**

issues to be resolved

Best way to incorporate into a relational database:

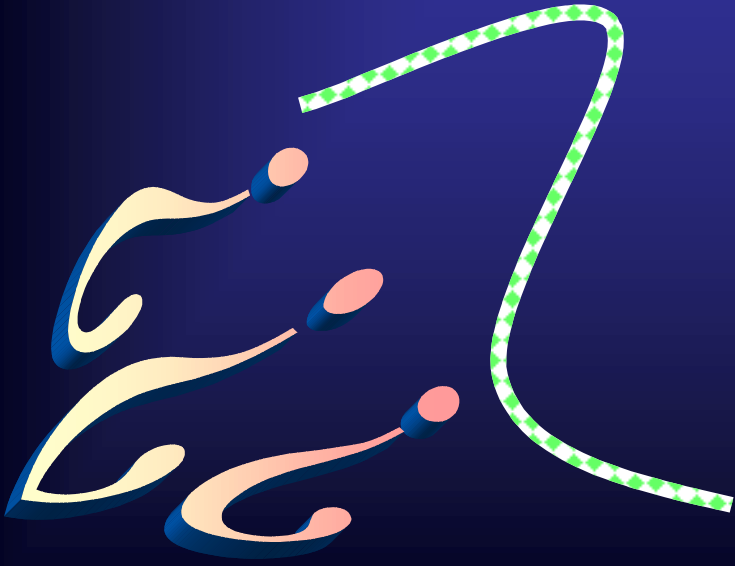
✧ **Automated data.**

✧ **Data collected in a national or regional program.**

- **Clean Air Status and Trends Network (CASTNet)**
- **Interagency Monitoring of Protected Visual Environments (IMPROVE)**
- **National Atmospheric Deposition Program/National Trends Network (NADP/NTN)**
- **Remote Weather Stations**

The loaded question:

When will the database be finished?



To which I reply.....

